Mass Appraisal for Assessment

Comparing and contrasting Fee Appraisal Methodology Vs. Mass Appraisal Methodology

Fee Appraisal

--When a fee appraiser values your property for financing or other purposes, you typically receive an appraisal consisting of three sales that indicate the market value.

--The sales selected are generally similar in design type, size, age, garage type and size, basement type and size and should be within the immediate location of your property.

--In addition, the sales should have all occurred within a time frame of three to six months. Adjustments are made to the sales, either positive, negative, or none, based on differences with your property. An indicated market value as of that date is given.

Mass Appraisal

--When the Assessor's office values your property for taxation purposes, an analysis consisting of three sales for each property is not an efficient method.

--The lack of effectiveness is due to time constraints for the number of properties that have to be valued (over 13,000 properties), the number of sales that are used (approximately 1,000 sales) and the resources available (staff, inspections, analyzing individual comparable sales).

Mass Appraisal Sales Period

--In addition, the law states a specific time frame that the sales must occur. The minimum requirement is 18 months, and depending on the number of sales available for the property type, a maximum of 5 years.

--Residential parcels are valued with 24 months of sales, from July 2012 to June 2014.

--Because the market can change gradually or dramatically during that time frame, the law requires that before any values can be calculated, the sales have to be analyzed and adjusted to one point in time, which is the end of June 30, of each even numbered year prior to the reappraisal year.

--Therefore, before values are calculated, the sales are adjusted for the time from the date of the sale to June 30.

Mass Appraisal Value Technique and Process

--After the sales are adjusted for time, a technique called Multiple Regression Analysis (MRA) is used to determine market value.

--Multiple Regression Analysis(hereafter referred to as "MRA") is appropriate for mass appraisal purposes because it is essentially an automated application of the sales comparison approach that uses all similar property type sales in geographic areas, not just three.

--MRA determines the proper adjustment for property characteristics that are important to the market. This is done through an algorithm designed to fit the sale prices as closely as possible.

--The sales are Coded by property types (Single family, Condos, Townhomes, and Duplex/Triplex) and regional location (economic areas). This helps account for different market values influenced by either.

--The individual property characteristics included in the value models are design type, quality, living area size, age, bath type and count, garage type and size, basement type and size, heating type, as well as the neighborhood location. Some characteristics have been collected but are not adjusted, such as bedroom count, because other features, such as total living area and quality type, account for it.

Economic Areas Neighborhoods/Subdivisions

--Property types are generally self-explanatory, but economic areas and neighborhoods, when used for mass appraisal valuation, are not always so clear.

--An economic area is a grouping of neighborhoods that have similar economic forces or geographic location.

--Economic forces are identified as physical and man-made features that are common to the area. Rivers, mountain passes, shopping centers, employment and entertainment centers are features that can be a uniting feature for different residential neighborhoods.

-- A neighborhood/subdivision consists of similarly valued properties in similar areas. Neighborhoods will typically contain homes of several filings of the same or similar subdivision.

Quality Control using Value Accuracy Tests

--To ensure market level values within economic areas, the sale prices are compared to actual values.

--The acceptable market level, as established by the state, is an actual value within 5% +/- of a sale price.

--A sales ratio is used for this and it is calculated by taking the actual value divided by the sale price.

--The middle or median sales ratio of all the sales in an economic area must be between .95 and 1.05.

--In addition to testing by economic area, all neighborhoods are tested for their compliance to the same sales ratio standard.

--Another test for market equity includes the amount of difference between all the sales ratios and the median sales ratio.

--A COD, or coefficient of dispersion, is used for this. It basically is a percentage of the average difference (absolute deviation) of all ratios with the median sales ratio.

--The COD indicates the amount of homogeneity or sameness there is in the market place.

--Some areas have a lot of variety, thereby having a higher COD, while others may have more similarity, indicating a lower COD.

--The law requires different COD levels, depending upon the property type. All residential property must have a COD less than or equal to 15.99.

--All other property, including vacant land must have a COD less than or equal to 20.99.

Market Approach Methods for Mass Appraisal

--Colorado State Statutes [39-1-103 (5) (a) and (8) (a)] require all county assessors to value residential real property solely by the market approach.

--There are several methods used to determine values by the market: Paired Sales, Market-Adjusted Cost Approach and Multiple Regression.

Paired Sales Method

--Paired Sales is the primary method of single-property appraisal.

--This methodology measures one property sale against a similar property sale to determine a specific adjustment for specific amenities.

--An example would be two ranch style home sales. Both have the same square footage and age, but one has a garage and the other does not.

--It is generally impractical in mass appraisal due to the quantity of sales to individually analyze each attribute adjustment.

Market-Adjusted Cost Approach Method

--Market-Adjusted Cost Approach is the premise that a certain quality of property has a base value of X dollars per square foot, with added factors for every additional amenity.

--A final market adjustment is applied to each neighborhood, positive or negative, to bring the neighborhood to "market value".

--The fundamental weakness is that the Cost Approach does not reflect the supply and demand relationship in the market place because the market adjustment factor is applied to every amenity, whether or not the market reflects it.

Multiple Regression Analysis Method

--Multiple Regression explores and quantifies the relationship between two or more components of known and available data (sale prices and property characteristics) to generate a market value.

--In essence this methodology uses aspects of both the paired sales and cost approach methodologies by determining which property characteristics are the primary contributors (Cost approach) and the amount they contribute (Paired sales).

--Regression does not require strict similarity between property sales because it estimates the value contribution (coefficient) for each attribute using a "goodness of fit" or error-minimizing technique.

--This methodology produces statistics about the quality of the attribute contribution that the other methods cannot provide. These statistics help evaluate the predictive accuracy of the regression equation, or essentially, the ability to predict sales price.

Valuation Models

--The value models used for assessment are the result of many MRA iterations.

--We review the data on a county-wide basis to review market trends. We also review the value models used in previous reappraisals for trends and consistency.

--This global model can then be used as a reference when specific neighborhoods don't have many sales.

--Each and property type have different value models. Before values are finalized, we review each neighborhood for any uniqueness that are not handled with the economic area value model.

--We test for statistical compliance and equitable valuation. Overall, the goal is to provide a value model that best reflects market value.